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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/781,571	02/17/2004	Frank Anthony Doljack	PWRSP009/PWR-026995	9279
22434	7590	04/20/2005	EXAMINER	
BEYER WEAVER & THOMAS LLP			HA, NGUYEN T	
P.O. BOX 70250			ART UNIT	
OAKLAND, CA 94612-0250			PAPER NUMBER	
			2831	

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H:A

Office Action Summary	Application No.	Applicant(s)	
	10/781,571	DOLJACK ET AL.	
	Examiner	Art Unit	
	Nguyen T Ha	2831	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 23-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>0804</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of group I, claims 1-12 and 20 in the reply filed on 2/10/2005 is acknowledged. The traversal is on the ground(s) that the searches for species II, and III would be co-extensive. This is not found persuasive because the claims 13-19 would be classified in a different class than claims 1-12.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-12 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Long et al. (US 2003/0214267).

Regarding claim 1, Long et al. disclose a module having inductor-free circuitry for controlling voltage imbalances between a pair of capacitors connected in a series arrangement (figure 2), comprising:

- a first terminal configured for connection to a positive plate (104) of the first capacitor;

- a second terminal configured for connection to a negative plate (204) of the first capacitor and to a positive plate of the second capacitor (206 figure 2);
- a third terminal configured for connection to a negative plate (206) of the second capacitor (figure 2); and
- an active element (224) integrated within the inductor-free circuitry between the first second, and third terminals and adapted to substantially balance the voltage imbalances between the pair of capacitors the active element having power connections (216) to the first and third terminals (figure 2).

Regarding claim 2, Long et al. disclose the active element is an op amp (224), the op amp having an input, an output, and a feedback loop, the input being connected to two voltage dividing resistors (230 & 232).

Regarding claim 3, Long et al. disclose the output is connected to the second terminal (figure 2).

Regarding claim 4, Long et al. disclose the output is connected to the second terminal through a current limiting resistor (figure 2).

Regarding claim 5, Long et al. disclose the feedback loop includes a feedback resistor (figure 3).

Regarding claim 6, Long et al. disclose (figure 3) having the active element is a switched voltage converter (308).

Regarding claim 7, Long et al. disclose (figure 3) having the switched voltage converter (308) incorporates a flying capacitor (320).

Regarding claim 8, Long et al. disclose the at least one of the terminals is further configured for connection to a second module having inductor-free circuitry for controlling voltage imbalances between a second pair of capacitors connected in the series arrangement (figure 2).

Regarding claim 9, Long et al. disclose the first and second module's inductor-free circuitries are substantially identical (figure 2).

Regarding claim 10, Long et al. disclose the first and second module's circuitry overlap upon connection to the second module (figure 2).

Regarding claim 11, Long et al. disclose the first and second module's circuitry overlap at one of the terminals (figure 2).

Regarding claim 12, Long et al. disclose the first and second modules' circuitry overlap cross a common capacitor shared by the two pair of capacitors (figure 2).

Regarding claim 20, the method steps are necessitated by the device structure as it is discloses by Long et al. comprising:

- forming a first terminal configured for connection to a positive plate (104) of the first capacitor;
- forming a second terminal configured for connection to a negative plate (204) of the first capacitor and to a positive plate of the second capacitor (206 figure 2);

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- forming a third terminal configured for connection to a negative plate (206) of the second capacitor (figure 2); and
- integrated an active element (224) within the inductor-free circuitry between the first second, and third terminals and adapted to substantially balance the voltage imbalances between the pair of capacitors the active element having power connections (216) to the first and third terminals (figure 2).

Citation Relevant of Prior Art

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Perry (US 2004/0022075) discloses full-wave coupled inductor power converter.
- b. Hidaka et al. (US 6,388,424) disclose cell shunt circuit for battery cells.
- c. Tamura et al. (US 6,151,223) disclose self-excited DC-DC converter with temperature compensation.
- d. Perelle (US 5,677,613) discloses method of regulating the charging of a set of electrical storage cells, and a facility implementing the method.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nguyen T. Ha whose telephone number is 571-272-1974. The examiner can normally be reached on Monday-Friday from 8:30AM to 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on 571-272-2800 ext. 31. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Nguyen T. Ha', with a stylized, cursive script.

Nguyen T. Ha
April 16, 2005